Claims:

1-11.(cancel)

12.(previously presented) Filter device for molten steel filtration comprising a bonded network of graphitized carbon, the filter device comprising a protruding frame joining a plurality of sieve plates, each plate including a corrugated surface, the protruding frame and sieve plates defining a reservoir chamber.

13.(previously presented) The filter device of claim 12, wherein at least one corrugated surface includes a surface corrugation from 0.1-10 mm.

14.(previously presented) The filter device of claim 13, wherein the surface corrugation is from 1-5 mm.

15.(previously presented) The filter device of claim 12, wherein each sieve plate defines a plurality of through holes, and the through holes of a first plate are spaced laterally from the through holes of a second plate.

16.(previously presented) The filter device of claim 15, wherein the through holes have a diameter from 1-10 mm.

17.(previously presented) The filter device of claim 16, wherein the through hole diameter is from 2-5 mm.

18.(previously presented) The filter device of claim 15, wherein the through holes comprise a shape selected from a group consisting of circular, elliptical, triangular, square, rectangular, pentagonal and hexagonal.

19.(previously presented) The filter device of claim 12, wherein the sieve plates include substantially an identical geometry.

20.(previously presented) The filter device of claim 12, wherein the filter comprises a ceramic raw material.

21.(previously presented) The filter device of claim 20, wherein the ceramic raw material includes reinforcing fiber.

22.(previously presented) A method for producing a filter device comprising a bonded network of graphitized carbon, the filter device comprising a protruding frame joining a plurality of sieve plates, each plate including a corrugated surface, the protruding frame and sieve plates defining a reservoir chamber, the method comprising:

a) pressing a semi-damp mixture comprising ceramic powder and a graphitizable bonding precursor and fibers to obtain a first and second perforated sieve plate, each plate having a disk shape, a protruding frame, and corrugated surface on at least one surface;

b) forming an assembly by joining the first and second perforated sieve plates by the protruding frames using a binder, whereby the plates and frame define a reservoir chamber;

c) firing the assembly in a non-oxidizing atmosphere to a temperature up to 1000°C.

23.(previously presented) The method of claim 22, wherein the binder is selected from a group consisting of ceramic or carbon.

24.(previously presented) The method of claim 22, wherein the non-oxidizing atmosphere is a reducing atmosphere.

25.(previously presented) The method of claim 22, wherein firing occurs between 600-700°C.

26.(previously presented) The method of claim 22, including roughening the corrugated surface.

27.(previously presented) The method of claim 22, wherein the semi-damp mixture includes a graphitizable carbon bonding precursor.

28.(previously presented) The method of claim 22, wherein the precursor is fired from 500-2000°C.